RECENT CONTRIBUTIONS TO VITAL STATISTICS.

By Gary N. Calkins.

Die Selbstmorde in Wien während der Jahre 1854–94. By Bratassivic, in *Statistische Monatschrift*, Jg. xxi, Hft. 5.

This interesting paper on suicides in Vienna is worthy of careful study. The limited territory covered and the accurate German statistical methods make the results valuable and the conclusions safe. An important series of tables gives the number of suicides, sex, and form of death from 1854–1894 (Table A) ; a classification by ages in five-year periods (Table B) ; the civil status of suicides according to sex (Table C) ; a division according to confession and sex (Table D) ; a division according to domicile and sex (Table E) ; the facts and motives of suicide (Table F) ; the period of year (Table G) ; and finally Tables H and I give the kind of suicides and the calling or profession.

1. The first lesson to be drawn from the study is that suicides in Vienna occur with no regularity from year to year. In 1871 suicides began to increase rapidly but irregularly, until in 1894 there were more than twice as many as in any year previous to 1864, and this rate of increase has been greater than the rate of increase of the population. By five-year periods suicides occurred as follows : —

	Increase per Cent.		Increase per Cent.
1854-58	....	1874-78	61.6
1859-63	1.9	1879-83	10.6
1864-68	54.0	1884-88	6.0
1869-73	11.7	1889-93	4.8

This shows an increase of suicides in the five years 1889–93 over the quinquennium 1854–58 of 248.3 per cent, or more than three times, while the population of Vienna increased only by 74.2 per cent.

2. Relation of suicides to total deaths and to the population of Vienna : —

	Suicides per 10,000 People.	Percentage of Suicides to Total Deaths.
1854-58	1.53	0.36
1859-63	1.41	0.41
1864-68	1.97	0.56
1869-73	1.99	0.56
1874-78	2.95	0.99
1879-83	3.20	1.07
1884-88	3.15	1.15
1889-93	3.07	1.27

The last column shows the effect of increased population upon the rate of suicides.

3. Relation of suicides in different parts of Austria.— In all of these there is a constant increase of suicides from one quinquennium to another. In many cases the increase is often more than 100 per cent, but in nearly all cases the increase is slighter in the later quinquennia. This decrease in the rate is less in Vienna, however, than in any other province of the kingdom. The percentage of suicides to total deaths is nearly twice as great in Lower Austria (including Vienna) as in Austria as a whole.

4. Relation of suicides to sex.— Suicide among women has not increased as rapidly as among men.

5. Suicides by ages.—The greatest number of suicides occurs in the age period 21-25 years ; the next greatest in the period 26-30 years ; and the third greatest in the age period 16-20 years.

NUMBER OF SUICIDES FOR EVERY 10,000 PEOPLE OF SAME AGE PERIODS.

	1869.	1880.	1890.
Until 20	1.70	3.77	1.60
20-30	5.39	4.31	3.25
30-40	5.36	5.76	2.06
40-50	2.32	2.20	2.56
50-60	3.46	3.25	3.37
60-70	2.46	0.29	2.16
70-80	1.98	1.77	2.12
After 80	5.20	1.00	11.22

6. The civil status of suicides.—This can best be shown by the following tabular summary : —

	1869.			1880.			1890.		
	Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.
Single......	4.74	2.00	3.43	4.18	1.01	2.55	3.17	1.31	2.22
Married....	4.69	1.24	2.94	6.24	1.24	3.73	4.59	1.18	3.06
Widowed...	10.18	1.75	3.79	12.89	1.66	3.92	8.95	1.32	2.99
Divorced...	2.69	2.04	2.32	2.07	....	0.98	2.93	2.40	2.60

7. Creed of suicides.—This also is shown by a condensed table : —

	1869.	1880.	1890.
Catholics...	2.60	3.12	2.61
Evangelists........	3.20	3.99	0.99
Greek Oriental....	4.62	7.23	5.09
Israelites.........	2.30	2.34	2.46

8. The seasonal distribution of suicides, 1869–94 : —

January..........	8.5	July..............	8.1
February...... ...	7.6	August...........	7.2
March.............	8.9	September........	7.4
April.............	9.1	October..........	8.3
May...	10.5	November.........	7.8
June.............	8.7	December.........	7.9

The maximum numbers of suicides for all quinquennia since 1854 are in May and March, while the minimum numbers are in February, December, September, and October.

9. The causes and motives of suicide. — In only about 39 per cent of all suicides could the motives be ascertained. These are shown in the following table : —

Motive.	1869-73.	1874-78.	1879-83.	1884-88.	1889-93.
Tired of life..............	6.02	1.96	1.32	1.17	1.91
Dementia............. ...	10.14	3.72	6.81	5.27	5.13
Melancholia..............	4.44	0.98	1.41	0.92	2.59
Incurable disease..........	6.34	4.41	5.58	6.79	8.71
Unrequited affection.......	11.41	7.15	4.69	4.76	6.30
Drunkenness..............	2.53	1.47	1.89	0.92	0.74
False sense of honor.......	1.26	1.17	0.38	0.25	0.49
Fear of punishment........	4.12	1.47	0.62	0.66	1.78
Grief......................	1.42	1.07	0.44	0.16	0.31
Family discord............	4.12	3.23	1.77	1.08	1.61
Business troubles..........	13.63	16.56	13.37	6.43	5.99
Unknown..................	34.57	56.81	61.72	71.59	64.44

10. Form of suicide, 1854–94 :   Hanging, 32.5 ; shooting, 23.5 ; poison, 22.4 ; fall from height, 8.1 ; stabbing and cutting, 6.1 ; drowning, 5.8 ; run over, 0.4 ; all other forms, 1.2.

This represents the average for the period 1854–94.   Shooting has greatly increased in recent years, while daggers and knives have gone out of fashion.   Hanging also has declined, while poison has increased ; 37 per cent of male suicides were by hanging and 14.8 per cent by poison.   For females, however, only 18.3 per cent were by hanging, while 47.7 per cent were by poison ; 29.6 per cent of suicides were by shooting, for males, and only 3.1 per cent for women.

Age also has much to do with the method of disposing of one's self.   Thus, hanging is the most acceptable method for men of the age period 26–30 years.   Other methods, such as drowning and drinking, seem to be evenly distributed for all ages.

11. Calling or profession of suicides.—The paper ends with a discussion regarding the occupations of the suicide, from which the following are taken : —

Bakers, butchers, policemen, watchmen, etc., 1.2 per cent of all suicides.
Advocates, doctors of law, etc., ... 1.3 " " "
Stone and brick layers, plasterers, etc., . . 1.4 " " "
Gold and silver workers, ... 1.5 " " "
Agents (real estate, insurance, etc.), . . . 1.6 " " "
Weavers of fabrics, ... 1.7 " " "
In household service as butlers, etc., . . . 1.8 " " "
Without work or employment, ... 2.1 " " "
Students, ... 2.3 " " "
Coachmen, car drivers, hack drivers, etc., . 2.4 " " "
Hotel keepers and restaurant proprietors, . 2.5 " " "
Tailors, ... 2.6 " " "
Carpenters, joiners, etc., ... 2.7 " " "
Shoemakers, ... 2.9 " " "
Private servants as valets, gardeners, etc., . 4.1 " " "
Day laborers of various kinds, ... 4.2 " " "
House servants, ... 4.5 " " "
Private citizens, ... 4.9 " " "
Trades-people, ... 6.1 " " "

In the following table the figures represent the number of suicides per 10,000 people in any given occupation : —

Public officials ...	5.8	Gold and silver smiths	4.9
Private "	14.9	Locksmiths............	3.8
Students..........	3.5	Cabinet makers.......	2.5
Tradesmen........	24.2	Bakers...............	3.6
Lawyers	7.9	Shoemakers..........	2.7
Innkeepers........	3.1	Day laborers.........	9.3

Ueber den gegenwärtigen Stand der Kindersterblichkeit, ihre Erscheinungen und ihre Entwickelung in europäischen Grossstädten. By Dr. Silbergleit, in *Hygienische Rundschau,* 1895, No. 5.

The instability of the population in large cities makes it difficult to establish accurate statistics of mortality for adults.   As a basis for comparison, accurate statistics of at least one age period should be obtained, and Dr. Silbergleit holds that infant mortality offers such a basis.

The different countries of Europe may be arranged as follows in respect to the ratio of infant mortality to total living born : Ireland, Norway, and Sweden, with 10 per cent ; then follow Denmark, Greece, Finland, England and Scotland, France, Belgium, Italy, Switzerland, Roumania, Netherlands, Prussia, Baden, Wurtenburg, Austria, Bavaria, and Saxony, in the order given.   The lowest rate, therefore, is in the northwest of Europe.   The greatest mortality is in European Russia, where the percentage to all living born is 29.6.

Country.	Period.	Living Births per 1,000.	Percentage of Illegitimates.	Death Rate in First Year per 1,000.
Ireland.................	1871-80	25.9	2.4	9.7
Norway................	1889-91	30.3	7.1	10.1
Sweden...............	1888-90	28.1	10.2	10.4
Denmark..............	1887-89	31.7	9.4	13.7
Greece................	1871-80	28.1	1.3	13.8
Finland..........	1888-90	33.5	6.5	14.4
England and Scotland.	1871-80	35.2	6.7	14.5
France................	1872-80	25.6	7.2	16.6
Belgium...............	1891-92	29.1	8.8	16.6
Italy.	1891-92	36.9	7.0	18.5
Switzerland...........	1871-80	31.2	4.7	19.4
Roumania.............	1871-80	41.9	4.5	19.7
Netherlands...........	1871-80	36.4	3.2	20.3
Prussia................	1890-92	36.8	7.6	20.7
Baden..	1890-92	33.3	8.5	22.2
Wurtenberg...........	1890-92	35.7	10.2	25.3
Austria...............	1890-92	37.0	14.9	25.4
Bavaria...............	1890-92	35.4	14.4	27.4
Saxony................	1890-92	40.5	12.3	28.1
European Russia.......	1871-79	49.1	2.9	29.6

History shows (see Westergaard) that the infant mortality in Sweden in the last century was double the present figure. Almquist asserts that in the last twenty-five years of the eighteenth century the rate in Finland was 37 per cent of all living births ; now it is 14.4 per cent.

The author, while admitting the possibility of error of registration returns, etc., maintains that enough evidence is gained to establish certain facts. For example, thirty-three of the English cities having each a population of more than 80,000 have an average infant mortality of 16.3 per cent in the period 1888–92. In the same period the German cities, each having more than 15,000 inhabitants, and fifty-seven Austrian cities each having a population of more than 12,000, have infant mortality percentages of 23.7 and 23.9 respectively. In twenty-nine of the largest cities of Hungary the percentage rises to 25.7. The following table shows the rate of infant mortality in some of the largest cities of Europe : —

	Percentage of Deaths Under 1 Year.			
	1891-93.	1888-90.	1885-87.	1882-84.
Dublin.................	17.5	17.1	18.1	19.0
Edinburgh............	13.9	13.4	13.1	12.8
London................	15.8	15.1	15.5	15.1
Manchester...........	19.1	18.0	18.3	17.9
Christiana.............	15.5	16.9	16.3	16.4
Copenhagen...........	19.2	19.9	20.1	22.2
Moscow...............	36.1	....	....	....
Magdeburg............	25.8	25.5	24.6	26.0
Berlin.................	24.7	25.7	26.7	28.5
Chemnitz..............	35.4	35.5	35.9	36.6
Leipzig.........	24.4	21.5	22.2	26.4
Frankfurt.............	16.7	17.1	18.5	18.1
Amsterdam	17.6	18.9	19.0	20.9
Paris..................	13.5	14.1	14.0	14.9
Malaga................	25.9	26.4	25.9	26.1
Turin	14.5	13.5	14.3	14.5
Vienna................	21.6	19.4	20.5	20.0
Bucharest.............	24.1	25.4	26.7	29.9

The differences here are quite variable, and Dr. Silbergleit attempts to find some explanation of them. He finds that illegitimacy is no great factor, as may be shown by the following comparison of illegitimate births and deaths with the rates for legitimates : —

	Percentage of Living Born.			
	Total Illegiti- mate Births.	Total Death Rate 1 Year.	Legitimate Death Rate.	Illegitimate Death Rate.
Barmen................	3.4	15.6	14.8	39.7
Elberfeldt.............	4.1	15.6	14.7	36.7
Aachen................	4.1	26.3	25.2	50.9
Duseldorf..	5.2	21.0	19.8	42.5
Krefeld................	4.5	21.0	20.3	36.7
All Prussian cities.....	8.9	22.2	20.6	39.1
All Prussian country...	6.8	19.8	18.8	33.6
All Prussia............	7.6	20.7	19.5	36.0
Budapest...............	28.3	20.8	19.2	25.1
Stockholm.............	28.1	15.6	10.6	25.0

He considers the birth frequency a potent factor, for amongst the poorer classes, where the birth rate is the greatest, the death rate is also the greatest. This is shown by Liverpool and Manchester, and other great manufacturing cities of Europe. In Swiss and in French cities where the number of births is the lowest, the number of infant deaths is also the lowest in proportion to the living born. This factor, however, cannot account for all of the variations, the most important factor being, according to Silbergleit, the climatic relations. With increase of temperature the infant mortality also increaies, as the following table will show : —

	Infant Mortality. Percentage by Quarters.				
	1st.	2nd.	3rd.	4th.	Total.
Glasgow...................	25.2	25.2	24.0	25.6	100.0
London...................	25.3	21.5	29.6	23.6	100.0
Manchester...............	22.4	24.0	29.4	24.2	100.0
Stockholm................	26.2	23.5	29.5	20.8	100.0
Moscow........	18.9	32.7	30.9	17.5	100.0
Magdeburg................	18.1	21.6	43.2	17.1	100.0
Berlin....................	21.0	25.2	34.7	19.1	100.0
Chemnitz..................	20.7	25.2	34.6	19.5	100.0
Leipzig...................	16.7	19.8	46.2	17.3	100.0
Strassburg............	20.0	25.7	36.1	18.2	100.0
Amsterdam................	25.4	25.5	26.7	22.4	100.0
Brussels..................	24.4	22.7	31.4	21.5	100.0
Paris......	25.0	25.3	28.2	21.5	100.0
Lyons....................	26.2	20.9	32.5	20.4	100.0
Rouen....................	24.5	22.9	32.2	20.4	100.0
Malaga...................	24.9	28.9	22.5	23.7	100.0
Rome....................	30.2	22.1	24.0	23.7	100.0
Turin	28.9	25.4	24.0	21.7	100.0
Geneva...................	20.1	23.4	33.7	22.8	100.0
Trieste...................	27.8	19.9	29.2	23.1	100.0
Vienna...................	23.6	28.1	27.0	21.3	100.0
Budapest..................	24.1	25.2	28.1	22.6	100.0

In the summer quarter the German cities are higher than any of the cities compared. The causes of the increase of mortality in these months are diseases of digestion.

The following table is of interest, as showing the comparison between rates of infant mortality in higher and lower classes. The military men are taken as the representatives of the higher classes :—

INFANT MORTALITY RATE PER 100 OF LIVING BORN.

City.	Military.	All Children.
Berlin.............	12.84	24.72
Breslau...........	14.29	28.25
Cologne...........	18.56	27.06
Magdeburg........	15.69	25.13
Dantzig......	13.68	26.60

Kindersterblichkeit im preussischen Staate, from *Zeitschrift des Kön. preussischen statistischen Bureaus*, Jg. 35, Heft 1 und 2.

The conditions of infant mortality in Prussia can be easily seen from the following table : —

	Still-Births per 1,000 Births.		Mortality Rate per 1,000 Living Born Children Under 1 Year of Age.			
			Before End of 1st Year.		After the 1st Year.	
	Males.	Females.	Males.	Females.	Males.	Females.
1875	47.0	39.6	163.3	138.2	226.4	192.8
1876	45.0	38.3	160.1	134.9	227.1	194.2
1877	45.0	36.2	147.7	124.6	212.0	181.2
1878	45.1	36.9	154.9	130.6	215.8	183.9
1879	44.8	36.6	150.8	127.4	215.2	185.4
1880	43.9	35.8	166.4	142.0	229.6	197.5
1881	43.3	35.8	149.3	127.9	216.3	187.3
1882	42.9	35.9˙	158.1	133.1	227.4	193.6
1883	42.7	35.6	157.1	133.9	224.3	193.6
1884	43.0	35.7	162.6	138.6	230.8	199.1
1885	43.3	36.0	151.5	128.7	220.4	190.6
1886	42.6	35.2	172.4	147.7	235.8	203.7
1887	42.3	35.3	151.1	128.8	212.1	182.5
1888	40.9	34.3	152.4	129.1	218.8	188.5
1889	40.2	33.6	155.6	132.7	224.0	193.4
1890	36.8	30.1	156.7	132.8	219.1	187.0
1891	36.4	29.7	156.9	131.8	221.5	187.7
1892	36.6	29.6	161.7	135.8	226.7	192.9
Average......	42.3	35.0	157.1	133.3	222.4	190.8

Die Kindersterblichkeit Wiens in den letzten 25 Jahren, 1869–94, in the *Statistische Monatschrift*, Jg. xxi, Heft 7.

A great decrease of infant mortality has been noticed in Vienna during the last twenty-five years, although Vienna has always held a very good position amongst the other cities of Europe in this respect.

In infant mortality the first day and the first month of life are the most affected, and this is greater for illegitimate children than for legitimate. A comparison of illegitimate with legitimate children, after the first year of life, is untrustworthy, because the former are taken away from foundlings' homes, etc., by the mothers, òr else are " farmed out." These facts are shown by table on following page.

The best record is shown by the city proper, probably because of the better sanitary conditions. The most unfavorable records are for the environs, where the great majority of mothers are laboring women, who have neither time nor money to care properly for their children.

Sterblichkeit nach dem Alter. By Thornton, in *Statistische Monatschrift*, Jg. xxi, Heft 7.

Five pages of solid tables, giving the percentages of deaths by ages to the total living population of Austria, offer exceptional advantages for the study of death rates.

The mortality of children one year of age and under, in the various provinces, varies from 42.06 per cent of males (Salzburg) and 32.26 per cent of females (Krain). Up to the age of five years the percentages are high, but constantly decrease, being about 8 per cent for children of two years, about 4 per cent for children of three years, 2.5 to 3 per cent for children of four years, and about 2.2 per cent for children five years old. The mortality of six-year-old children varies from 1 to 2 per cent, but from this age up to the age of thirty years the death rate is below 1 per cent. From this age until about forty-eight years it is about 1.5 to 2 per cent, and stands between 2 and 3 per cent until the age of fifty-eight years, after which it rapidly goes up to about 10 per cent in the seventieth year and 41.18 per cent in the ninetieth.

One very interesting point brought out by the tables is the relation of sex to the death rate. It is a well-known fact that about 105 male children are born to every 100 female. According to Thornton's tables, 35.24 per cent of all male children of one year of age

Period.	Average Number of Deaths of Infants in 1st month.		Average Number of Deaths of Infants in 1st Year.		Average Number of Deaths of Children Under 5 Years.		Ratio of Male Children who Die to 100 Female Deaths.					
							Under 1 Month.		Under 1 Year.		Under 5 Years.	
	Legitimate.	Illegitimate	Legitimate.	Illegitimate	Legitimate.	Illegitimate	Legitimate.	Illegitimate	Legitimate.	Illegitimate	Legitimate.	Illegitimate
1869-73	1,385	1,203	4,162	2,158	6,633	2,654	136	136	106	95	117	114
1874-78	1,202	1,114	3,689	1,932	6,267	2,333	134	136	111	98	112	118
1879-83	1,186	1,075	3,527	1,911	5,994	2,371	134	132	120	119	109	117
1884-88	1,207	975	3,606	1,802	5,753	2,232	136	131	123	123	114	119
1889-93	1,209	951	3,587	1,788	5,588	2,200	129	118	124	115	115	113

Infant mortality in the country regions of Austria, the environs of Vienna, and in Vienna proper, shows the following relations :—

DEATHS TO EVERY 1,000 LIVING BIRTHS.

Period.	Age.	Vienna.		Suburbs.		Total Austria.		Country Districts.	
		Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.
1869 to 1878	1 month.........	83	103	110	224	107	159	97	117
	1 year.........	253	184	313	601	285	384	257	288
	5 years.........	415	223	498	642	385	374	367	411
1879 to 1888	1 month.........	75	85	94	126	100	117	98	121
	1 year.........	226	154	289	438	268	298	243	307
	5 years.........	374	191	424	572	456	476	437	604
1890 to 1893	1 month.........	75	82	97	112	88	101	91	115
	1 year.........	224	154	287	287	253	266	234	311
	5 years.........	346	189	368	441	350	333	348	395

die, whereas only 28.36 per cent of female infants of the same age die, a difference of 6.88 per cent.   This relation is maintained until the sixth year, as follows : —

DEATH RATE PER CENT OF ALL INFANTS OF THE SAME AGE UP TO 6 YEARS.

Ages.	Percentage of Males.	Percentage of Females.	Difference per Cent.	
In 1st year......	35.24	28.36	+6.88	
" 2nd "	8.45	7.94	+ .51	
" 3rd "	4.28	3.95	+ .33	
" 4th "	2.84	2.73	+ .11	
" 5th "	2.21	2.06	+ .15	
" 6th "	1.37	1.41	— .04	

From the age of six until about the forty-fifth year the female percentage of deaths is greater than the male, as may be shown by taking every fifth year : —

DEATH RATES IN PERCENTAGES OF TOTAL LIVING AT SAME AGE.

Ages.	Percentage of Males.	Percentage of Females.	Difference per Cent.
In 10th year........	0.66	0.70	—0.04
" 15th "	0.36	0.51	—0.15
" 20th "	0.77	0.80	—0.03
" 25th "	0.82	0.83	—0.01
" 30th "	0.95	1.05	—0.10
" 35th "	0.96	1.05	—0.09
" 40th "	1.18	1.33	—0.15
" 45th "	1.48	1.28	+0.20
" 50th "	2.01	1.86	+0.15
" 55th "	2.52	2.21	+0.31
" 60th "	3.64	3.95	—0.31
" 65th "	5.03	5.21	—0.18
" 70th "	7.92	8.19	—0.27
" 75th "	11.59	11.97	—0.38
" 80th "	16.81	17.68	—0.87
" 85th "	27.61	27.97	—0.36

These differences are worthy of careful study and comparison with the causes of death in the different age periods.

Die Illegitimatät in Steiermark.   By Dr. Otto v. Zwiedineck-Sudenhorst, in *Statistische Monatschrift*, Jg. xxi, Heft 4.

In this study in illegitimacy in relation to the average marriage age, Styria, a province in Austria, is taken as the basis for statistics which cover a period of more than 100 years, in which the conditions have remained about the same.   The author's general conclusion is that illegitimacy is great if the marriage age is high, and low if the

marriage age is low; and that the morality of a country is not neces-
sarily measured by the rate of illegitimate births. A comparison of
legitimates to illegitimates gives no basis of morality. To find such
a basis the author multiplies the number of illegitimate births to
every 100 unmarried women of child-bearing age, by the percentage
of the unmarried to all child-bearing women, and divides the product
by the number of births for each 100 child-bearing women. Thus,
$y = \dfrac{BC}{D}$ where y equals the morality (in figures); B the percentage
of illegitimate births to unmarried women, C the percentage of un-
married to all child-bearing women, and D the percentage of births
to all child-bearing women.

A continuous and great increase of illegitimate births has taken
place since 1785, as shown by the following selections : —

From 1785-88 there were on an average						95.09 illegitimate to every 1,000 births.					
"	1794-96	"	"	" "	"	86.89 (?)	"	"	"	"	"
"	1806-09	"	"	" "	"	130.62	"	"	"	"	"
"	1815-19	"	"	" "	"	168.75	"	"	"	"	"
"	1825-29	"	"	" "	"	215.04	"	"	"	"	"
"	1835-39	"	"	" "	"	244.34	"	"	"	"	"
"	1845-49	"	"	" "	"	253.41	"	"	"	"	"
"	1855-59	"	"	" "	"	286.70	"	"	"	"	"
"	1865-69	"	"	" "	"	300.34	"	"	"	"	"
"	1875-79	"	"	" "	"	243.66	"	"	"	"	"
"	1886-90	"	"	" "	"	245.67	"	"	"	"	"

The author indicates a close connection between the number of
marriages of one year and the number of illegitimate births occurring
in the next year. A year of few marriages is followed by a year of
increased illegitimacy, and *vice versa.*

The abolition of foundlings' homes and maternity hospitals did not
result in stopping illegitimacy, but acted merely to drive women away
from Styria into Lower Austria. This is ascertained by the amount
of money paid annually by Styria to Vienna and Prague for shelter
of pregnant women who had left Styria. The number of illegitimate
births registered in Styria would not, therefore, indicate the immo-
rality of the latter province.

The increase of illegitimacy has been much greater in the southern
than in the northern portions. In the southern portions, peopled
chiefly by Slavs, the number of illegitimates is four times as great as
100 years ago, although it has decreased during the last thirty years.
In northern Styria, however, where the number of illegitimates is and
always has been greater than in the southern parts (45.19 per cent in
the former and 16 per cent of total births in the latter), the people are
no more immoral than in the southern provinces, because of the later
average marriage age, as shown by the following figures : —

MARRIAGE AGE AND ILLEGITIMACY IN STYRIA.

Province.	Period.	Percentages of Grooms of Different Ages.					Percentages of Brides of Different Ages.					Illegitimacy per 100 Births.
		Under 24 Years.	24–30 Years.	30–40 Years.	40–50 Years.	Over 50 Years.	Under 20 Years.	20–24 Years.	24–30 Years.	30–40 Years.	Over 40 Years.	
MURAU. (Upper Styria.)	1883-87	5.7	21.7	40.0	22.9	10.0	5.0	19.0	29.0	29.5	17.5	54.71
	1888-92	3.4	26.5	40.3	21.7	8.0	5.0	16.4	31.7	30.9	15.0	
GRÖBMING. (Upper Styria.)	1883-87	4.1	29.5	42.0	20.4	6.7	5.5	15.3	34.0	30.0	15.2	42.18
	1888-92	3.0	30.3	43.7	17.1	6.0	5.1	18.7	34.8	30.0	12.4	
RANN. (Lower Styria.)	1883-87	19.6	40.1	23.1	9.3	7.9	17.3	30.7	26.0	15.6	10.4	10.93
	1888-92	12.5	45.3	24.8	9.9	7.0	15.7	36.0	30.0	14.8	10.5	
LUTTENBERG. (Lower Styria.)	1883-87	20.5	41.3	23.1	7.5	7.6	7.7	25.0	33.7	24.6	9.0	11.35
	1888-92	14.0	42.5	24.0	10.4	9.0	6.8	24.4	36.8	19.7	12.3	

The author claims that the later development of puberty does not account for the lateness of marriage, but rather the higher "standard of life," education, ambitions, etc.   The entire question, therefore, is not so much one of morality as it is dependent upon circumstances of location, environment, and social status.

La mortalité des enfants du premier age dans ses rapports, avec les habitations occupées par les nourrices. By Dr. F. Ledé, in the *Journal de la Société de Statistique de Paris.* 1895, No. 8.

In this rather diffuse paper Dr. Ledé shows that medical inspection of the habitations of nurses has had a certain effect upon the diminution of infant mortality.

Sterbefälle männlicher, mit der Herstellung bezw. dem Vertriebe alkoholischer Gertränke berufsmässig beschäftiger Personen in Preussen, from *Zeit. des kön. preuss. stat. Bureaus,* Jg. 35, Heft 1 und 2, 1895.

The figures in the following table represent the number of males engaged in the liquor traffic, who died from various causes in the period 1884–93 : —

Trade.		Old Age.	Apoplexy.	Delirium Tremens.	Suicide.	Accident.
Brewers.	Owners............	22	38	1	17	6
	Managers....	20	28	....	9	5
	Laborers..........	60	90	18	58	123
Distillers.	Owners............	25	32	5	11	4
	Managers..........	10	17	1	3	8
	Laborers...........	44	24	2	4	34
Wine and Beer Merchants.	Wine dealers....	5	15	....	2	2
	" agents.....	9	5	1	10	4
	Beer dealers... .	....	4	1	3	....
	" drawers....	.. .	3	5	1	4
	" laborers.,..	....	2	....	1	....
Hotel proprietors..............		1,371	1,610	258	405	257
Inn proprietors................		246	211	50	96	58
Inn and hotel employes........		4	21	2	22	23
Waiters.......................		9	59	15	159	96
Cooks.........................		14	8	....	6	8
Other servants.................		....	....	....	1	....

Deaths from apoplexy occur more frequently than from old age, and relatively more often in case of the owners than of the assistants. No wine dealer, cook, or servant, and only one wine agent, died from

delirium tremens, and only one owner of a brewery, but five distillers, many brewers (laborers), waiters, and a large number of hotel and inn keepers died of this disease.   The social standing does not notably affect the deaths from these causes.

Registration Report of Rhode Island, 1893.

This excellent report is the forty-first since the beginning of registration of births, marriages, and deaths in Rhode Island.   The important facts of past years are presented for comparison with similar facts in 1893, and the report is therefore valuable as a history of Rhode Island registration, as well as for the important items for the year considered.   The tables, however, are entirely lacking in rates,— an unfortunate omission in an otherwise excellent report.

The proportion of male to female births for every year since 1863 is shown by counties.   The proportion varies from 112.9 males to 100 females in 1865 to 105.8 males to 100 females in 1893.   The difference in different counties is also of interest, the proportion in one year being as high as 142.1 to 100 in Bristol county.   An unusual if not altogether new feature is the stress laid upon sex of decedents in comparison with births by sex.   The following summary is sufficient to show this : —

	Mortality of Males to 100 Females.	Births of Males to 100 Females.	
1863	102.2	105.8	
1868	94.3	104.5	
1873	95.5	108.6	
1878	94.8	102.7	
1883	99.5	101.4	
1888	95.4	105.4	
1893	103.8	103.3	

Annual Registration Report of Ontario for the Year 1893.

The population of Ontario for the year 1893 is estimated from the natural rate of increase,— that is, the percentage increase of births over deaths.   No account is taken of the changes effected by emigration and immigration.

The birth rate in 1893 was 19.8 per 1000, the highest rates being in the most recently-settled districts.   Males to females were in the

proportion of 106.5 to 100, a ratio that has increased by slight increments during the last four years.   The ratio of illegitimates was 13.6 per 1000 births.

The marriage rate was 7.1 per 1000.   This is a slight decrease from the marriage rate of previous years.   In the report marriages are classified by religious denomination and by ages as well as by season and locality.

The death rate, according to the method of estimating population, was 10.6 per 1000.   The editor makes no apology for this rather incredible rate.   In the comparative table given, Indiana, California, Michigan, and Ontario all have about the same death rate, and a rate which does not exceed 10.6 per 1000.   If death rates, like men, are to be judged by the company they keep, we must consider that of the Ontario report unsafe, for the registration records of Indiana, California, and Michigan are notoriously inaccurate on account of the inadequate registration laws.   It is estimated that the death rate in Michigan for 1893 (10.0 per 1000) should be increased by about 60 per cent, and the same estimation applied to the rate of Ontario would make the latter 16.9 per 1000, which probably would still be too low.

Zymotic diseases in Ontario continue to decrease, while constitutional, local, and developmental diseases increase.

Twenty-seventh Annual Report Relating to the Registry and Return of Births, Marriages, and Deaths in Michigan for the Year 1893.

The Michigan registration report for 1893 begins with the now customary annual appeal for better and improved methods of registration.   About twenty pages are given to a discussion of the registration bill which was presented to the Michigan Senate in January, 1895, but which failed to become a law.

The editor devotes five pages to his reasons for using a method of estimating intercensal population that is everywhere considered unsafe and faulty.   This journal has constantly urged the use of the geometrical method as opposed to the arithmetical, or method of average annual increase.   The editor offers a table comparing the two methods for each year since 1868 ; and while the figures show plainly (especially in the early years) the supremacy of the geometrical method, he nevertheless adopts the other, because it "seemed preferable for the conditions

existing in Michigan." Conditions can never be such that the arithmetic method is preferable scientifically, and the geometrical method, if correct for one, is equally correct for all conditions, no matter whether the difference shown by the two methods is as low as 500 or as great as 50,000, the scientific error in both cases is equally great.

The tables are models of arrangement and convenience, and one regrets that such care and skill should have such inadequate registration to work upon. Long tables of comparative statistics running back to 1867, and the application of many of the most recent advances in statistical presentation, make the report, even as it stands, of value to students, while summaries and detailed tables make it interesting for the casual observer.

The following table gives a general summary of the movement of the population of Michigan for 1893 : —

	Rate per 1,000 of Population.			
	Marriages.	Births.	Deaths.	Excess of Births over Deaths.
1870	16.5	22.5	9.1	13.4
1875	17.4	22.7	8.5	14.2
1880	18.2	21.1	9.8	11.8
1885	17.0	22.6	8.9	13.7
1890	17.8	25.0	10.3	14.7
1893	17.4	21.6	10.0	11.6

Annual Report of the Registrar-General of Births, Deaths, and Marriages for 1894. South Australia.

The population of the colony of South Australia in 1894 was 347,720 ; the birth rate 30.49 per 1000 in the proportion of 106.67 males to 100 females. The percentage of illegitimate to total births was 3.05. The following comparative table, copied from page 9 of the report, shows the relative position of the colony in relation to the various countries of Europe. The year taken for the comparison is 1894, or the last year of official published returns : —

	Birth Rate.	Marriage Rate.	Death Rate.
South Australia................	30.49	6.09	11.64
Victoria........................	29.17	5.99	13.14
New South Wales..............	31.48	6.20	12.30
Queensland....................	31.86	5.70	12.08
West Australia.................	27.49	6.11	13.99
Tasmania......................	31.11	5.42	12.42
New Zealand.......	27.28	6.15	10.19
United Kingdom...............	29.50	7.30	19.00
England and Wales............	30.50	7.70	19.00
Ireland................	22.40	4.60	19.40
Scotland......................	30.70	7.00	18.50
France........................	22.10	7.60	22.60
German Empire................	35.70	7.90	24.10
Prussia........................	36.30	8.00	23.40
Austria........................	36.10	7.80	28.80
Italy..........................	36.40	7.50	26.30
Switzerland	28.00	7.30	19.30
Belgium.......................	29.10	7.70	21.70
Netherlands...................	32.00	7.20	21.00
Norway	29.60	6.30	17.70
Sweden........................	28.30	5.80	16.80
Hungary......................	42.30	8.60	33.10